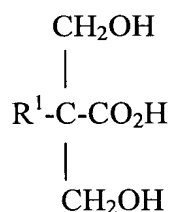


- B¹
- (A) a prepolymer component comprising an isocyanate-terminated polyurethane prepolymer, said component being formed from reactants which comprise:
- (i) at least one organic polyisocyanate,
 - (ii) at least one isocyanate-reactive compound providing said poly(ethylene oxide) groups in the resulting polyurethane polymer, and
 - (iii) at least one isocyanate-reactive compound providing said acid-functional groups in the resulting polyurethane polymer, and
- (B) an active hydrogen component comprising at least one active hydrogen chain-extending compound.

2. (Amended) Film according to claim 1 wherein the amount of said poly(ethylene oxide) groups is within the range of 2 to 20 weight % based on the weight of the polyurethane polymer.

3. (Amended) Film according to claim 1 wherein the amount of said poly(ethylene oxide) groups is within the range of 5 to 35 weight % based on the weight of the polyurethane polymer.

9. (Amended) Film according to claim 8 wherein the isocyanate-reactive compound providing acid functional groups is a dihydroxyalkanoic acid of formula



where R¹ is hydrogen or alkyl.

10. (Amended) Film according to claim 9 where said isocyanate-reactive compound is 2,2-dimethylol propionic acid (DMPA).

11. (Amended) Film according to claim 8 wherein the isocyanate-reactive compound providing acid functional groups is a diol bearing a sulphonic acid alkali metal salt.

12. (Amended) Film according to claim 1 wherein the reactants for forming the prepolymer component (A) include at least one isocyanate-reactive compound which is monofunctional with regard to isocyanate-reactive functionality and acts as a chain-terminating material for the prepolymer.

B² 13 (Amended) Film according to claim 1 wherein said polyurethane polymer optionally incorporates poly(propylene oxide) groups.

14 (Amended) Film according to claim 1 wherein said active hydrogen component (B) comprises at least one active hydrogen chain-extending compound provided by the reaction of water with said prepolymer.

B³ 16. (Amended) Film according to claim 15, wherein said added active-hydrogen chain extending compound is selected from the group consisting of a primary or secondary aliphatic, alicyclic, aromatic, araliphatic or heterocyclic polyamine, hydrazine (including its monohydrate) and a substituted hydrazine.

18. (Amended) Film according to claim 1 wherein at least 90 weight% of the acid functional groups in the polyurethane polymer are neutralised.

B⁴ 19. (Amended) Film according to claim 1 wherein at least 50 weight % of the at least one base used for neutralisation is selected from the group consisting of Group IA monovalent metal bases or basic salts, triethanolamine, 2-methyl-2-amino-1-propanol, and quaternary ammonium hydroxides.

20. (Amended) Film according to claim 19 wherein said base is selected from the group consisting of NaOH, KOH and LiOH.

22. (Amended) Film according to claim 1 wherein the polymeric material thereof further comprises at least one other polymer which is other than a polyurethane and does not detract from the water-solubility of the film.

B⁵ 23. (Amended) Film according to claim 22 wherein said at least one other polymer is selected from the group consisting of polyvinyl alcohol and neutralised carboxylic acid - or sulphonic acid-functional vinyl polymer.

Sub D2 25 (Amended) Aqueous solution of at least one polyurethane polymer, said at least one polymer comprising:

B⁶ 2 to 35 weight %, based on the weight of polyurethane polymer, of poly(ethylene oxide) groups which have a chain length(s) corresponding to a number average molecular weight within the range of from 300 to 3,000 Daltons;

Sub D2
cont. → 15 to 150 millequivalents, per 100g of polyurethane polymer, of acid-functional groups; and wherein

at least 50 weight% of the acid-functional groups are neutralised, such neutralisation being with at least one base, at least part of which is at least one non-volatile base;

and said at least one polyurethane polymer is a chain extended product formed using:

(A) a prepolymer component comprising an isocyanate-terminated polyurethane prepolymer, said component being formed from reactants which comprise:

- B6
- (i) at least one organic polyisocyanate,
 - (ii) at least one isocyanate-reactive compound providing said poly(ethylene oxide) groups in the resulting polyurethane polymer, and
 - (iii) at least one isocyanate-reactive compound providing said acid-functional groups in the resulting polyurethane polymer, and

(B) an active hydrogen component comprising at least one active hydrogen chain-extending compound.

26. (Amended) Water-soluble packaging in which the enveloping film of the packaging comprises a film as defined according to claim 1.

27. (Amended) Water-soluble packaging according to claim 26 wherein the film thereof has a monolayer construction or a laminate construction.

29. (Amended) Combination of water-soluble packaging according to claim 26 and a material packaged therein.

B7 30. (Amended) Process for the production of an aqueous polyurethane polymer solution, which polyurethane polymer has:

2 to 35 weight %, based on the weight of polyurethane polymer, of poly(ethylene oxide) groups which have a chain length(s) corresponding to a number average molecular weight within the range of 300 to 3000 Daltons;

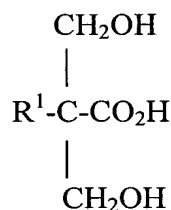
15 to 150 milliequivalents, per 100 g of polyurethane polymer, of acid-functional groups; and wherein

at least 50 weight% of the acid-functional groups are neutralised, such neutralisation being with a base(s) at least part of which is a non-volatile base(s);
said process comprising

- B7
- I. synthesizing a prepolymer component comprising an isocyanate-terminated polyurethane prepolymer from reactants which comprise:
 - (i) at least one organic polyisocyanate
 - (ii) at least one isocyanate-reactive compound providing said poly(ethylene oxide) groups in the resulting polyurethane polymer, and
 - (iii) at least one isocyanate-reactive compound providing said acid-functional groups in the resulting polyurethane polymer;
 - II. chain extending said prepolymer component using an active hydrogen component comprising an active hydrogen chain extending compound(s) to form said polyurethane polymer; and
 - III. forming an aqueous solution of said polyurethane polymer;

wherein said polyurethane polymer is capable of forming films which are soluble in water at temperatures between 5° and 35° C.

B8
SUB 2 33. (Amended) Process according to any one of claims 30 to 32 wherein the isocyanate-reactive compound providing acid functional groups in step I is a dihydroxyalkanoic acid of formula



where R¹ is hydrogen or alkyl.

B9 35. (Amended) Process according to claim 30 wherein the isocyanate-reactive compound providing acid functional groups in step I is a diol bearing a sulphonic acid alkali metal salt.

36. (Amended) Process according to claim 30 wherein the reactants for forming the prepolymer component in step I include an isocyanate-reactive compound(s) which is

monofunctional with regard to isocyanate-reactive functionality and acts as a chain-terminating material for the prepolymer.

37. (Amended) Process according to claim 30 wherein said active hydrogen component used in step II comprises an active hydrogen chain extending compound(s) provided by the reaction of water with said prepolymer.

B⁹
38. (Amended) Process according to claim 30 wherein said active hydrogen component used in step II comprises an added active hydrogen chain extending compound.

39. (Amended) Process according to claim 38, wherein said added active hydrogen chain extending compound is a compound selected from the group consisting of a primary or secondary aliphatic, alicyclic, aromatic, araliphatic or heterocyclic polyamine, hydrazine (including its monohydrate) and a substituted hydrazine.

41. (Amended) Process according to claim 40 wherein at least 90 weight% of the acid functional groups in the polyurethane polymer are neutralised.

B¹⁰
42. (Amended) Process according to claim 41 wherein at least 50 weight % of the base(s) used for neutralisation is selected from the group consisting of Group IA monovalent metal bases or basic salts, triethanolamine, 2-methyl-2-amino-1-propanol, and quaternary ammonium hydroxides.

43. (Amended) Process according to claim 42 wherein said base is selected from the group consisting of NaOH, KOH, and LiOH.

SUB
C3
B¹¹
45. (Amended) Polyurethane polymer which has:

2 to 35 weight %, based on the weight of polyurethane polymer, of poly(ethylene oxide) groups which have a chain length(s) corresponding to a number average molecular weight within the range of from 300 to 3000 Daltons;

15 to 150 milliequivalents, per 100g of polyurethane polymer, of acid-functional groups; and wherein

at least 50% of the acid-functional groups are neutralised, such neutralisation being with a base(s) at least part of which is a non-volatile base(s);

and said polyurethane polymer being a chain extended product formed using:

- B¹¹
- (A) a prepolymer component comprising an isocyanate-terminated polyurethane prepolymer, said component being formed from reactants which comprise :
- (i) at least one organic polyisocyanate;
 - (ii) at least one isocyanate-reactive compound providing said poly(ethylene oxide) groups in the resulting polyurethane polymer; and
 - (iii) at least one isocyanate-reactive compound providing said acid-functional groups in the resulting polyurethane polymer,
- and
- (B) an active hydrogen component comprising an active hydrogen chain-extending compound(s);

and, wherein said polyurethane polymer is capable of forming a water-soluble film which is soluble in water at temperatures between 5° and 35° C.

See the attached Appendix for the changes made to effect the above claim(s).

Please add the following new claim(s):

--46. (New) Water-soluble packaging according to claim 26, in the form of a sachet, capsule or bag.

B¹²

47. (New) Film according to claim 9, wherein R¹ is hydrogen or alkyl of 1 to 5 carbon atoms.

48. (New) Process according to claim 33, wherein R¹ is hydrogen or alkyl of 1 to 5 carbon atoms.

49. (New) A method for packaging a material comprising inserting the material in the water-soluble packaging according to claim 26.--